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The development of construction projects involves a considerable amount of time and money. The Idaho Transportation Department is required to develop construction projects that are needed, cost effective, and within the approved policies of the department and the Federal Highway Administration. Construction projects are to be selected and a multi-year construction program formulated in accordance with priorities established by various needs, studies, and long-range planning.

SECTION 220.00 – PROJECT PURPOSE AND NEED

A construction project may be based on numerous reasons such as inadequate capacity for current traffic volumes, physical deterioration of the present facility, safety, public sentiment, etc. A project purpose and need report is required for all new projects before they can be added to the Highway Development Program. The purpose and need should be as comprehensive and specific as warranted so as to not limit the range of alternatives that may be considered reasonable, prudent and practicable. The report should include existing conditions, proposed improvements, benefits of the project, etc., and is submitted with the program data.

Project "purpose" relates to maintaining or improving benefits for users, adjacent landowners and communities through design controls and criteria (i.e., capacity, level of service (LOS), safety, economics, environment, etc.). Project "needs" relates to deficiencies or obsolescence of current facilities through the elements of design and cross section (i.e., sight distance, alignment, grades, drainage, barriers, pavement, lanes, shoulders, etc.). The first step, according to American Association of State Highway and Transportation Officials (AASHTO) guidelines, is to state the transportation function that the project is intended to serve (e.g., Principal Arterial-Urban System).

FHWA guidelines indicate that clarification of purpose and need is one of the first actions to be taken in the development of any project, and is one of the most important steps of major projects. The purpose and need report establishes why the proposed action, with its inherent costs and impacts, is being pursued and demonstrates the problems that will result if the project is not implemented. A purpose statement of “going from LOS F to LOS E” may meet the clarification requirement and would allow nearly all alternatives qualify. However, clarification with an even more specific objective such as "to achieve and maintain a design year LOS of C or better" or "to provide a nonstop facility for through traffic movements" allows rationale for rejection of any alternative projecting lesser results. The LOS requirement for projected design year traffic volumes provides a rational basis for the selection of design criteria and project goals that match the purpose and need, thus integrating the highway planning and design process.

A well-justified purpose and need is vital to meeting the requirements of a project involving Section 4(f) properties, wetlands, floodplains or Section 404(b)(1) Guidelines. Without a well-defined, well-established and well-justified purpose and need, it is difficult to determine which alternatives are reasonable, prudent and practicable, and it may be impossible to dismiss the no-build alternative. As a rule, if an alternative does not satisfy the needs or purpose for the project, then the alternative is not prudent and should not be included in further analysis.

Routine construction project that do not involve alternatives, such as routine overlays and other minor projects, do not generally require a comprehensive purpose and need report. For example, a purpose statement of "to provide increased ease of traffic flow" is generally satisfactory for routine projects.

SECTION 230.00 – PROJECT PROGRAMMING

Project revisions and initial entry is automated and being done through the computerized display of the Idaho Transportation Improvement Program (ITIP). Current/existing projects are updated for management and Idaho Transportation Department Board review at least annually. (See Administrative Policy A-11-02, Highway Development Program). The districts are responsible for submitting accurate and complete information necessary to fully justify the need for the project. The ITIP display contains all fields necessary to complete ITD-1414 and ITD-2101 forms. Missing or incomplete data elements will delay processing of these forms and may jeopardize approvals for project development. It is paramount that all fields be reviewed and pertinent project information supplied. Also to be included are items such as existing highway deficiencies, the benefit to the public of the proposed project, and statistical data on pavement condition, structure conditions, signals, railroads, and hazard reduction potential. An ITD-1150, Preliminary Cost Summary Sheet, is not required at this time. An ITD-2839, Right-Of-Way Cost Estimate, can be used to estimate right-of-way costs.

Following Idaho Transportation Department Board approval of the Highway Development Program, all new projects and those that have had a change in funding, or those projects that have been removed from the program will have an ITD-1414, Project Program or Revision, generated by Highway Programming from data on the ITIP file. The ITD-1414 requests are then circulated by Highway Programming to Roadway Design, other appropriate sections, and management. Requests that are not approved by management are returned to the District.

Each District reviews their approved projects and considers which quarter the projects should be submitted (first, second, etc.). The Roadway Design section then coordinates the requests to optimize funding, provide an even workload for advertisements, and assign actual bid opening dates spaced throughout the quarter. When requesting a specific bid opening date, clearly indicate if this is a priority project or if there are special requirements for controlling operations.

For local projects, the Sponsor sends an ITD-2435, Local F.A. Project Request, to the District. The District reviews and evaluates the submitted local projects to ensure eligibility for the proposed funding and appropriate cost-effective use of public funds and as appropriate adds projects to their respective list of proposed projects.

Recommendations for the Building Program are submitted by the Districts to the Facilities Manager for coordination and approval.

230.01 State (ST) Project Programming. In compliance with Administrative Policy A-11-02, Highway Development Program, the following routing for approval shall be used for ST projects:

- District submits a balanced ITIP file based on their annual allocation. (see above)
- The District prepares a Board agenda item to add or change project scheduling in the current program. A completed ITD-1414, Project Program or Revision, is to be included along with documentation for proposed offsetting costs. ST projects may be considered in emergency or unique situations on a case-by-case basis. Documentation of the situation is required.
- Highway Programming and management reviews the Board agenda item for inclusion in the Highway Development program.

- The Board approves or disapproves the project at a regular monthly meeting. The ITD-1414 is marked approved and returned to the originating District. Disapproved projects are also returned to the originating District.
- Based on approved project scheduling the District prepares and forwards an ITD-2101, Project Authorization and Agreement, to Roadway Design.
- The ITD-2101 is forwarded through Highway Programming to Financial Services and work authorization is issued.
- Work begins on the project.

230.02 Local Cooperative ST Project Requirements. Many ST projects consist of a monetary payout to a local entity for a cooperative project.

To maintain uniformity in processing Local Cooperative ST projects, the following procedure will be used:

- After Board approval of the ITD-1414, Project Program or Revision, a cooperative agreement is prepared by Roadway Design. The District provides the initial request and input.
- When the agreement has been signed by all parties, the District distributes a copy to all parties with two copies to Roadway Design and one copy to Highway Programming.
- Roadway Design prepares an ITD-2101, Project Authorization and Agreement, and forwards the ITD-2101 and one copy of the agreement through Highway Programming to Financial Services.
- Financial Services assigns work authorization, finalizes, and distributes the ITD-2101.
- The Districts, in cooperation with the local entity, prepare an ITD-340, Construction Progress Chart, which estimates the cash payments that are required for the project.
- Payment to the local entity is made at their request, after they obtain a contractor to perform the work or complete the work themselves. The District prepares and submits an invoice entry and tracking form through Oracle.
- Exceptions to this procedure must have prior approval by the Chief Engineer.

SECTION 240.00 - PROJECT DEVELOPMENT FUNDING

The cost of a project can be estimated utilizing the "Average Cost Per Lane Mile/Kilometer" charts (Figure 2-1 & 2-1a).

A project that is placed on the Federal-Aid Highway Development Program is eligible for development under Federal-Aid provided that the project meets eligibility criteria for those funds. When project development activities are ready to begin, the District Engineer submits an ITD-2101, Project Authorization and Agreement, to Roadway Design for the scheduled preliminary engineering for that federal fiscal year. Roadway Design processes the ITD-2101, Financial Services issues the work authority, and copies are sent to all personnel who are authorized to make charges against the project.

On Federal-Aid projects, FHWA authorization is required before any work occurs or notices-to-proceed are issued.

Federal-Aid projects may be considered for addition or advancement in emergency or unique situations on a case-by-case basis. Documentation of the situation is required and could possibly require a STIP amendment with approval from one or more of the following: FHWA, FTA, and/or EPA. The process may take between 3 to 6 months.

240.01 State (ST) Program Funding. ST Program estimates include contract and capital outlay costs, (such as, Right-Of-Way or consultant PE) .

- State-furnished materials, labor, and equipment are shown as State Forces (SF) work on the ITD-1414, Project Program or Revision, and ITD-1150, Preliminary Cost Summary Sheet. State Forces will be shown separately to capture total project costs, but not included on the ST Program.
- Local funds are not included in the ST program estimate.

Figure 2-1

Average Cost Per Lane Mile - Rural

By: Functional Class and Terrain (Flat, Rolling & Mountainous)

(1000's)

	INTERSTATE			OTHER PRINCIPAL ARTERIALS			MINOR ARTERIALS			MAJOR COLLECTORS			MINOR COLLECTORS		
	F	R	M	F	R	M	F	R	M	F	R	M	F	R	M
RECONSTRUCT TO FREEWAY	647	673	798	539	540	798	0	0	0	0	0	0	0	0	0
RECONSTRUCT W/MORE LANES	592	647	854	510	610	742	354	370	451	354	370	451	251	262	358
RECONSTRUCT W/WIDER LANES	592	647	854	510	610	742	417	557	742	370	460	571	292	416	446
PAVEMENT RECONSTRUCTION	554	580	796	460	557	676	375	502	676	302	432	462	219	311	334
PAVEMENT RECONST W/ALIGN	582	625	826	485	583	709	397	529	709	336	445	518	255	363	390
MAJOR WIDENING(ADD LANES)	275	340	432	260	306	432	260	306	432	238	275	425	238	275	425
MINOR WIDENING	259	276	386	208	219	337	134	173	232	128	134	203	128	134	203
RESURFACING W/SHLDR IMP.	195	206	245	180	191	245	151	162	224	124	139	191	124	139	191
RESURFACING	107	110	147	89	93	147	81	86	147	78	82	138	78	82	138
RESURF W/ALIGN & SHLDR IMP	307	334	423	307	359	423	255	297	406	231	277	339	205	238	297
RESURFACING W/ALIGN IMP	275	319	396	275	325	396	202	240	349	183	224	279	138	167	192

Average Cost Per Lane Mile - Urban

By: Road Type and Urban Nature

	FREEWAYS & EXPRESSWAYS		OTHER DIVIDED		UNDIVIDED	
	BUILT-UP	OUTLYING	BUILT-UP	OUTLYING	BUILT-UP	OUTLYING
RECONSTRUCT TO FREEWAY	0	0	547	349	701	429
RECONSTRUCT W/MORE LANES	380	437	450	415	288	250
RECONSTRUCT W/WIDER LANES	720	744	750	706	686	588
PAVEMENT RECONSTRUCTION	671	694	699	659	730	628
MAJOR WIDENING(ADD LANES)	618	392	436	373	559	339
MINOR WIDENING	345	318	307	301	323	285
RESURFACING W/SHLDR IMP.	521	236	170	224	160	160
RESURFACING	158	127	156	120	184	131

Figure 2-1a

Average Cost Per Lane Kilometer - Rural
By: Functional Class and Terrain (Flat, Rolling & Mountainous)
(1000s)

	INTERSTATE			OTHER PRINCIPAL ARTERIALS			MINOR ARTERIALS			MAJOR COLLECTORS			MINOR COLLECTORS		
	F	R	M	F	R	M	F	R	M	F	R	M	F	R	M
RECONSTRUCT TO FREEWAY	402	418	495	335	335	495	0	0	0	0	0	0	0	0	0
RECONSTRUCT W/MORE LANES	368	402	531	316	379	461	220	229	280	220	229	280	156	163	222
RECONSTRUCT W/WIDER LANES	368	402	531	316	379	461	259	346	461	229	286	354	181	258	277
PAVEMENT RECONSTRUCTION	344	360	494	286	346	420	233	312	420	187	268	287	136	193	208
PAVEMENT RECONST W/ALIGN	361	388	513	301	362	440	246	328	440	208	276	321	159	225	242
MAJOR WIDENING(ADD LANES)	171	211	268	161	190	268	161	190	268	148	171	264	148	171	264
MINOR WIDENING	161	171	240	129	136	209	84	107	144	79	84	126	79	84	126
RESURFACING W/SHLDR IMP.	121	128	152	112	119	152	94	100	139	77	86	119	77	86	119
RESURFACING	67	68	91	55	58	91	51	53	91	48	51	86	48	51	86
RESURF W/ALIGN & SHLDR IMP	191	208	262	191	223	262	159	185	252	143	172	211	127	148	185
RESURFACING W/ALIGN IMP	171	198	246	171	202	246	126	149	217	114	139	173	86	104	119

Average Cost Per Lane Kilometer - Urban
By: Road Type and Urban Nature

	FREEWAYS & EXPRESSWAYS		OTHER DIVIDED		UNDIVIDED	
	BUILT-UP	OUTLYING	BUILT-UP	OUTLYING	BUILT-UP	OUTLYING
RECONSTRUCT TO FREEWAY	0	0	340	217	435	267
RECONSTRUCT W/MORE LANES	236	272	279	258	179	155
RECONSTRUCT W/WIDER LANES	447	462	466	439	426	365
PAVEMENT RECONSTRUCTION	417	431	434	409	453	390
MAJOR WIDENING(ADD LANES)	384	244	271	232	347	211
MINOR WIDENING	214	197	191	187	201	177
RESURFACING W/SHLDR IMP.	323	147	105	139	100	100
RESURFACING	98	79	97	74	114	81

240.02 Maintenance (STM and STKP) Program Funding. STM and STKP Program estimates include contract costs only.

240.03 Charges for State-furnished Items and Materials on State-Funded (ST), State Maintenance (STM), and Stockpile (STKP) Projects

- Construction Engineering
  Record on Engineer's estimate and ITD-2101, Project Authorization and Agreement, and charge against the project.

- Pavement Markings
  Do not record on Engineer's estimate and ITD-2101.
  Charge against Route and Milepost.

- State-Furnished Material
  Signals and Light Poles
  Record materials, including labor by Signal Shop, on Engineer's estimate and ITD-2101 and charge against the project.
  Aggregate and Miscellaneous (Materials by SF)
  Record on Engineer's estimate and ITD-2101 and charge against the project.

- Work by State Forces Record on Engineer's estimate and ITD-2101 and charge against the project.

- Preliminary Engineering
  Record on Engineer's estimate and ITD-2101 and charge against the project.

SECTION 250.00 – PRELIMINARY DEVELOPMENT PROCEDURES

During the year or two that the project is in Preliminary Development, the District assembles a scoping team to tour the project. If the project has environmental concerns, it is recommended that FHWA be invited to be part of the scoping team.

Each year for the annual program update, an ITD-2708, Preliminary Project Concept, and revised estimates on the ITD-1150, Project Cost Summary Sheet, are prepared and forwarded to Highway Programming. The ITD-2708 must be completed before a project is moved to the Development Schedule. If cost changes are required, an ITD-1414, Project Program or Revision, and an ITD-1150 are also submitted with the latest concept.

A project may **not** be moved from fifth year to fourth year of the program unless an ITD-783-A(ITD-0757), Design Standards, and an ITD-783-B, Alternate Solutions and Costs, has been completed. The Phase I Materials Report and Life Cycle Costs accompany the ITD-783-A(ITD-0757) and B.

250.01 Addition, Revision, or Deletion of Projects to the Highway Development Program. Until a project is approved and added to the Highway Development Program, projects are not budgeted, nor can development begin. An ITD-1414, Project Program Entry or Revision, must be prepared and submitted for all projects proposed for addition, revision, or deletion to the Highway Development Program.

For new locally sponsored projects, an ITD-2435, Local Federal-Aid Project Request, must be completed. (See Policy for local projects). A vicinity map may be required for the purposes of clarity.

Preliminary engineering (PE) and right-of-way (RW) is scheduled for each project, in each year, for the amount that will be obligated and spent. As a project goes to construction, PE will be left open for six months. If there is a change in the scope of work or additional PE is needed, beyond the six months, PE will have to be reopened.

250.02 Project Cost Changes. Cost changes on scheduled projects within the first four (4) years of the Program shall be managed by tradeoffs of planned work, project length reduction, approved cost reduction measures, and lastly by rescheduling of other projects. An ITD-1150, Cost Estimate Summary, is also required if the project is within the first five (5) years of the Program.

Cost changes for projects within the contract-scheduled year (1st year) of the Program must be in accordance to Administrative Policy A-11-02, Highway Development Program, and an ITD-1414, Project Program or Revision, must be submitted to Highway Programming for approval by the Chief Engineer.

CMAQ and STP-Enhancement projects may be allowed an increase in federal funds only on a case by case basis. Increases for local agency projects require Board approval. Any increase in project cost is primarily the responsibility of the local sponsoring agency. See Administrative Policy A-11-02, Highway Development Program.

State-funded projects are authorized as a set budget amount. Submission of an ITD-1414 may be delayed until the time of Detailed Estimate for State-funded project cost increases. At that time, an ITD-1414, Project Program or Revision, is required along with supplemental documentation identifying how the additional cost will be offset.

SECTION 260.00 – PROJECT LIMIT DESIGNATION

Project limit designations include all major work to be performed. Isolated improvements outside the work termini of the principal work, or isolated improvements which are combined to form a project, shall be included within the project limits. Construction limits may extend beyond project limits so as to include temporary connections, transitions, and other minor work items. If project limits change during the development of a project, e-mail Highway Programming the revised milepost limits.

SECTION 270.00 – ENGINEERING AND CONTINGENCIES

Policy is to set engineering and contingency (E&C) costs at fifteen percent (15%). This percentage is meant to reflect ten percent (10%) construction engineering and five percent (5%) contingencies (change orders, QVRs and claims). For projects with QA provisions, the designer needs to calculate the amount that could potentially be paid out in incentives for all items and add that amount to the contingency amount. The Districts may lower the E&C amount to ten percent (10%) on minor surfacing projects, railroad crossings and other minor projects that are not manpower sensitive. The E&C amount can be increased to 20% for projects under $500,000 that typically have high administrative costs such as those that are in remote locations. Variance from these parameters requires written justification and should be part of the PS&E package.

SECTION 280.00 – DONATIONS

Donated services and materials by public agencies may be acceptable on enhancement projects. An ITD-2395 Form is required to document materials and services values. The completed forms shall be submitted to Roadway Design for approval. The RDE is responsible for reviewing and approving the value of donated items.